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Safety Information

	The lightning flash with arrow head within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

Class B emissions limits

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Important Safety Instruction

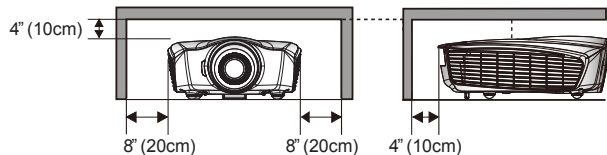
1. Do not block any ventilation openings. To ensure reliable operation of the projector and to protect from over heating, it is recommended to install the projector in a location that does not block ventilation. As an example, do not place the projector on a crowded coffee table, sofa, bed, etc. Do not put the projector in an enclosure such as a book case or a cabinet that restricts air flow.
2. Do not use the projector near water or moisture. To reduce the risk of fire and/or electric shock, do not expose the projector to rain or moisture.
3. Do not install near heat sources such as radiators, heaters, stoves or any other apparatus such as amplifiers that emits heat.
4. Clean only with dry cloth.
5. Only use attachments/accessories specified by the manufacturer.
6. Do not use the unit if it has been physically damaged or abused. Physical damage/abuse would be (but not limited to):
 - Unit has been dropped.
 - Power supply cord or plug has been damaged.
 - Liquid has been spilled on to the projector.
 - Projector has been exposed to rain or moisture.
 - Something has fallen in the projector or something is loose inside.Do not attempt to service the unit yourself. Opening or removing covers may expose you to dangerous voltages or other hazards. Please call Optoma before you send the unit for repair.
7. Do not let objects or liquids enter the projector. They may touch dangerous voltage points and short out parts that could result in fire or electric shock.
8. See projector enclosure for safety related markings.
9. The unit should only be repaired by appropriate service personnel.

Precautions



Please follow all warnings, precautions and maintenance as recommended in this user's guide.

- ■ Warning- Do not look into the projector's lens when the LED is on. The bright light may hurt your eyes.
- ■ Warning- To reduce the risk of fire or electric shock, do not expose this projector to rain or moisture.
- ■ Warning- Please do not open or disassemble the projector as this may cause electric shock.
- ■ Warning- When switching the projector off, please ensure the cooling cycle has been completed before disconnecting power. Allow 10 seconds for the projector to cool down.
- ■ Warning- Do not use lens cap when projector is in operation.
- ■ Warning- Allowing the proper amount of space on the top, sides, and rear of the projector cabinet is critical for proper air circulation and cooling of the unit. The dimensions shown here indicate the minimum space required. If the projector is to be built into a compartment or similarly enclosed, these minimum distances must be maintained.



Usage Notice

Do:

- ❖ Turn off and unplug the power plug from the AC outlet before cleaning the product.
- ❖ Use a soft dry cloth with mild detergent to clean the display housing.
- ❖ Disconnect the power plug from AC outlet if the product is not being used for a long period of time.

Do not:

- ❖ Block the slots and openings on the unit provided for ventilation.
- ❖ Use abrasive cleaners, waxes or solvents to clean the unit.
- ❖ Use under the following conditions:
 - In extremely hot, cold or humid environments.
 - ▶ Ensure that the ambient room temperature is within 5°C ~ 40°C
 - ▶ Relative humidity is 10% ~ 85%
 - In areas susceptible to excessive dust and dirt.
 - Near any appliance generating a strong magnetic field.
 - In direct sunlight.

Viewing 3D projection using the 3D function

IMPORTANT SAFETY INFORMATION. READ THE FOLLOWING WARNINGS BEFORE YOU OR YOUR CHILD USE THE 3D FUNCTION.

Warning

- ❖ Children and teenagers may be more susceptible to health issues associated with viewing in 3D and should be closely supervised when viewing these images.

Photosensitive Seizure Warning and Other Health Risks

- ❖ Some viewers may experience an epileptic seizure or stroke when exposed to certain flashing images or lights contained in certain Projector pictures or video games. If you suffer from, or have a family history of epilepsy or strokes, please consult with a medical specialist before using the 3D function.
- ❖ Even those without a personal or family history of epilepsy or stroke may have an undiagnosed condition that can cause photosensitive epileptic seizures.
- ❖ Pregnant women, the elderly, sufferers of serious medical condi-



Usage Notice

tions, those who are sleep deprived or under the influence of alcohol should avoid utilizing the unit's 3D functionality.

- ❖ If you experience any of the following symptoms, stop viewing 3D pictures immediately and consult a medical specialist: (1) altered vision; (2) light-headedness; (3) dizziness; (4) involuntary movements such as eye or muscle twitching; (5) confusion; (6) nausea; (7) loss of awareness; (8) convulsions; (9) cramps; and/ or (10) disorientation. Children and teenagers may be more likely than adults to experience these symptoms. Parents should monitor their children and ask whether they are experiencing these symptoms.
- ❖ Watching 3D projection may also cause motion sickness, perceptual after effects, disorientation, eye strain and decreased postural stability. It is recommended that users take frequent breaks to lessen the potential of these effects. If your eyes show signs of fatigue or dryness or if you have any of the above symptoms, immediately discontinue use of this device and do not resume using it for at least thirty minutes after the symptoms have subsided.
- ❖ Watching 3D projection while sitting too close to the screen for an extended period of time may damage your eyesight. The ideal viewing distance should be at least three times the screen height. It is recommended that the viewer's eyes are level with the screen.
- ❖ Watching 3D projection while wearing 3D glasses for an extended period of time may cause a headache or fatigue. If you experience a headache, fatigue or dizziness, stop viewing the 3D projection and rest.
- ❖ Do not use the 3D glasses for any other purpose than for watching 3D projection. Wearing the 3D glasses for any other purpose (as general spectacles, sunglasses, protective goggles, etc.) may be physically harmful to you and may weaken your eyesight.
- ❖ Viewing in 3D projection may cause disorientation for some viewers. Accordingly, DO NOT place your 3D PROJECTOR near open stairwells, cables, balconies, or other objects that can be tripped over, run into, knocked down, broken or fallen over.

Eye Safety Warnings



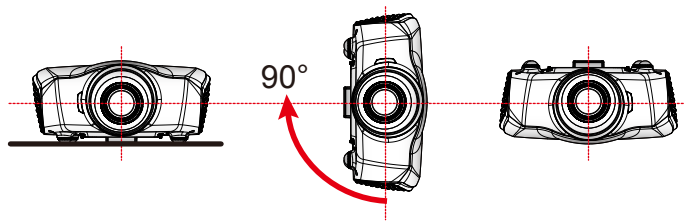
- Avoid staring/facing directly into the projector beam at all times. Keep your back to the beam as much as possible.
- When projector is used in a classroom, adequately supervise students when they are asked to point out something on the screen.
- In order to minimize the lamp power, use room blinds to reduce ambient light levels.

Flexible Angle Setting

- Available angle in vertical direction

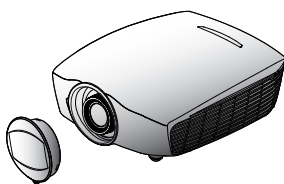


- Available angle in horizontal direction

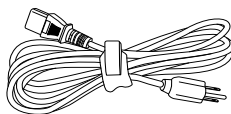


Package Overview

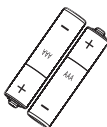
Unpack and inspect the box contents to ensure all parts listed below are in the box. If something is missing, please contact Optoma customer service.



Projector with lens cap



Power Cord



2 × AAA Batteries



IR Remote Control
(Remote may vary depending on model)



❖ Due to different applications in each Country, some regions may have different accessories.

Documentation :

- ☒ Warranty Card
- ☒ Quick Start Card
- ☒ WEEE Card
(for EMEA only)

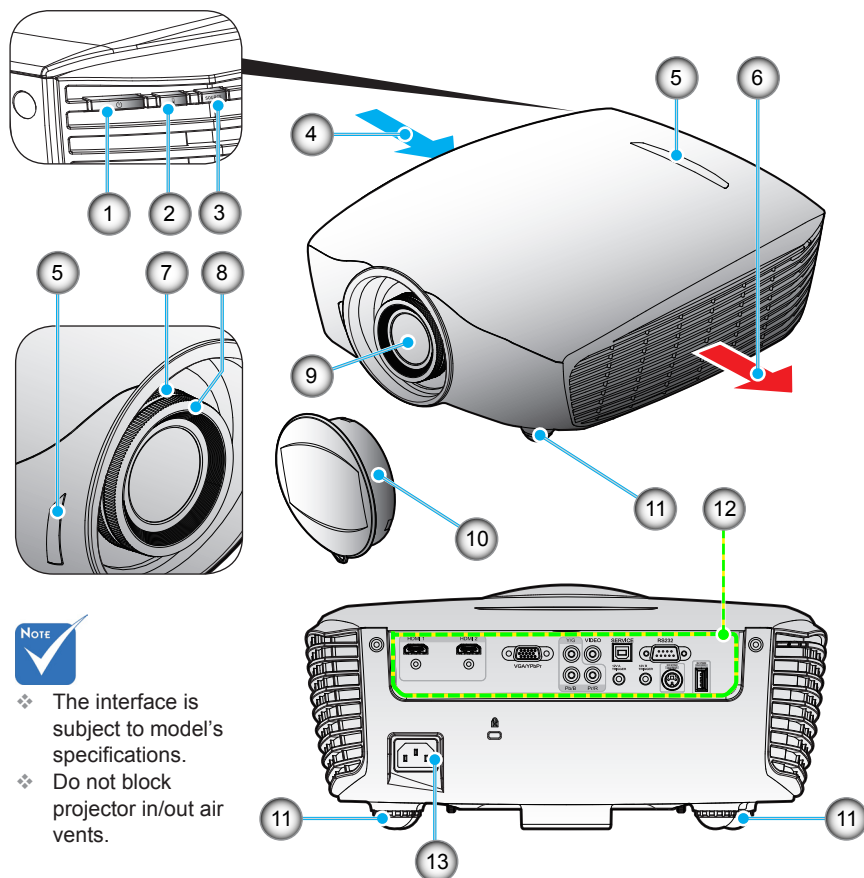


❖ For European warranty information please visit www.optomaeurope.com

Introduction

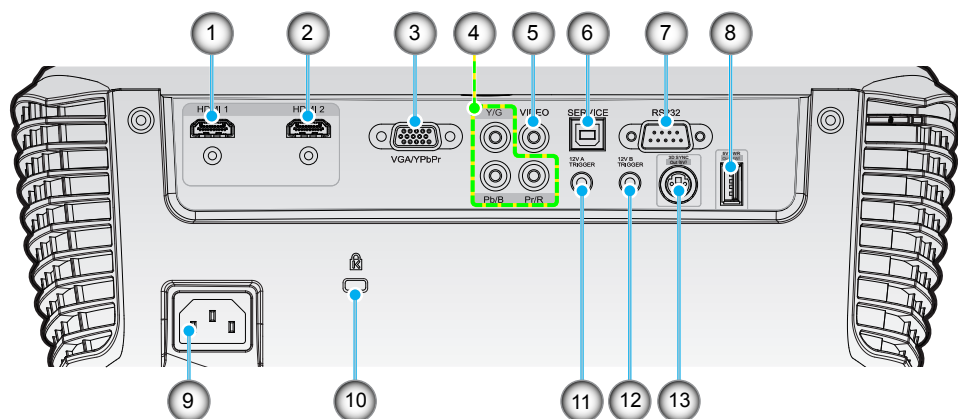
Product Overview

Main Unit



- | | |
|-----------------------------|--------------------------------|
| 1. Power Button / Power LED | 7. Zoom Ring |
| 2. Temp LED | 8. Focus Ring |
| 3. Source Button | 9. Lens |
| 4. Ventilation (inlet) | 10. Lens Cap |
| 5. IR Receivers | 11. Tilt-Adjustment Feet |
| 6. Ventilation (outlet) | 12. Input / Output Connections |
| | 13. Power Socket |

Input/Output Connections



1. HDMI 1 Connector (v1.4a 3D supported)
2. HDMI 2 Connector (v1.4a 3D supported)
3. VGA-In/YPbPr Connector
(PC Analog Signal/Component Video Input/HDTV/YPbPr)
4. Component Video Input Connector (YPbPr)
5. Composite Video Input Connector
6. USB for firmware upgrade
7. RS-232 Connector (9-pin)
8. USB for Power (5V@1A)
9. Power Socket
10. Kensington™ Lock Port
11. 12V Trigger A Relay Connector (12V, 250mA. 3.5mm Mini Jack)
12. 12V Trigger B Relay Connector (12V, 250mA. 3.5mm Mini Jack)
13. 3D Sync Out (5V)



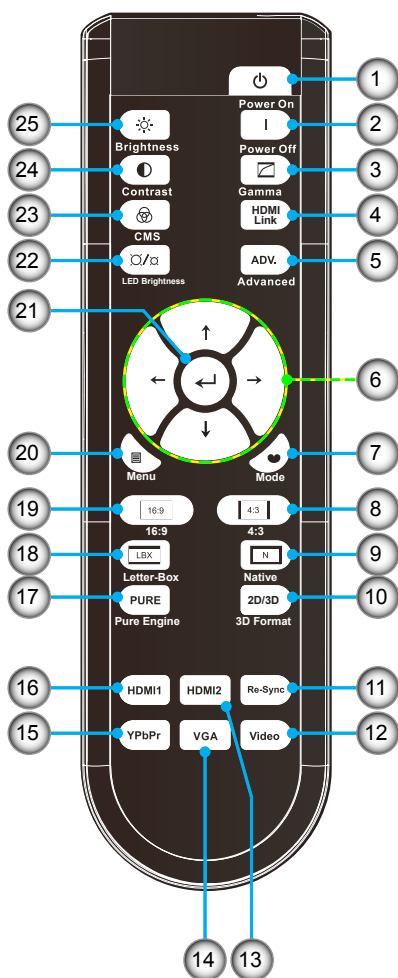
❖ The interface is subject to model's specifications.

Introduction

Remote Control



❖ The remote is subject to model's specifications.



1. Power On
2. Power Off
3. Gamma
4. HDMI Link
5. Advanced
6. Four Directional Select Keys
7. Mode
8. 4:3
9. Native
10. 3D format
11. Re-Sync
12. Video Source
13. HDMI2 Source
14. VGA Source
15. YPbPr Source
16. HDMI1 Source
17. PureEngine
18. LBX
19. 16:9
20. Menu
21. Enter
22. LED Brightness
23. CMS (Color Management System)
24. Contrast
25. Brightness

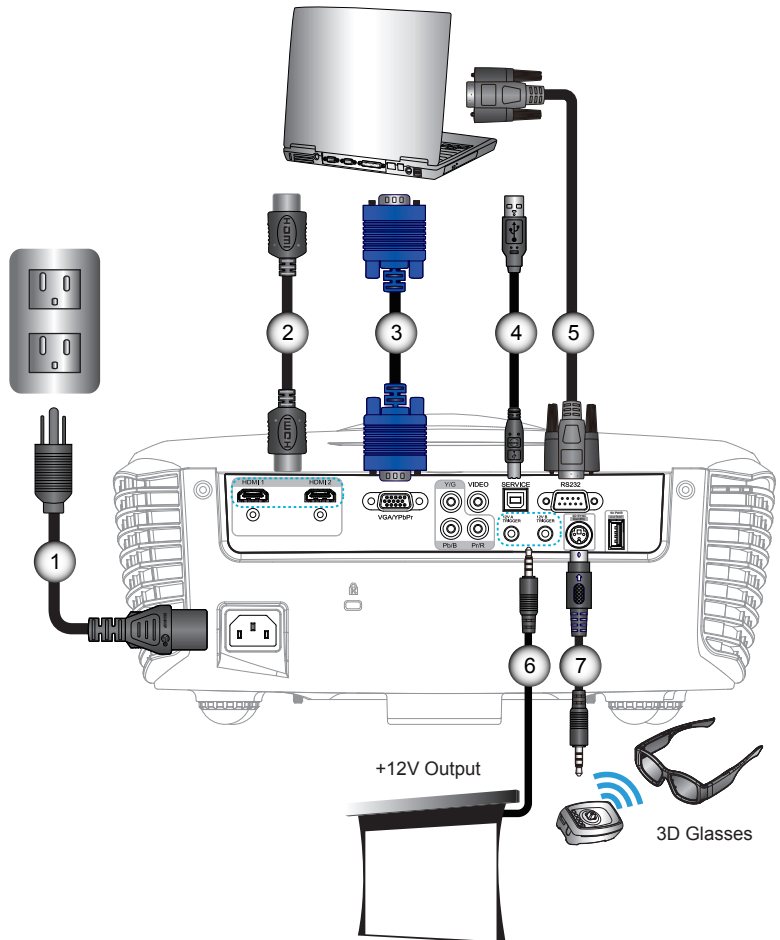
Installation

Connecting the Projector

Connect to Computer/Notebook



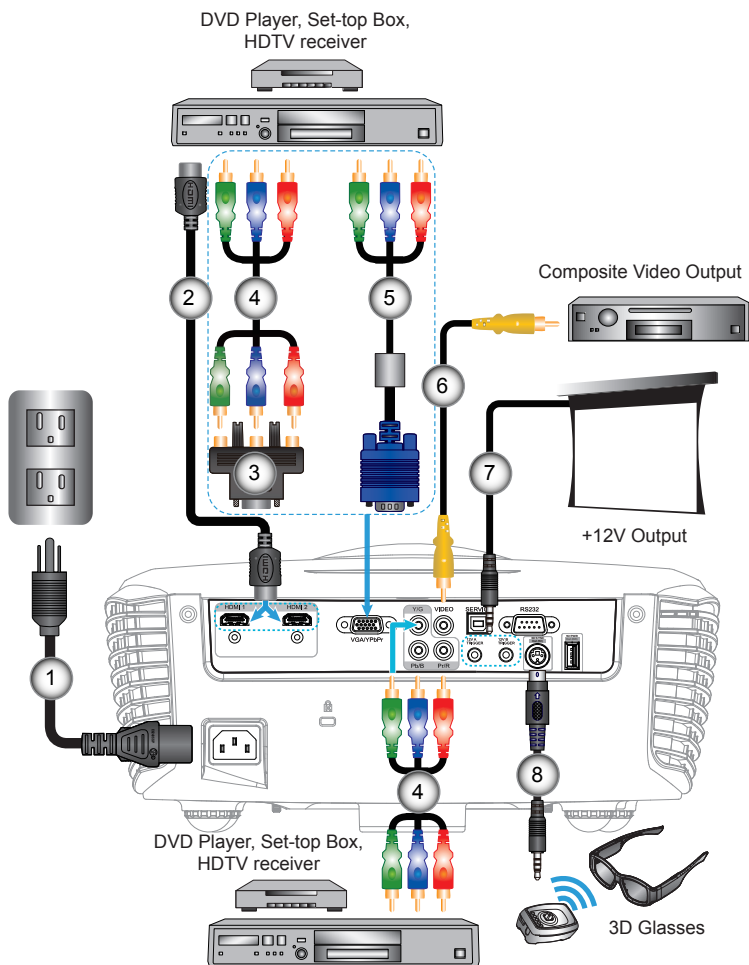
- ❖ Due to the difference in applications for each country, some regions may have different accessories.
- ❖ (*) Optional accessory



- | | |
|--------|-------------------|
| 1..... | Power Cord |
| 2..... | *HDMI Cable |
| 3..... | *VGA Cable |
| 4..... | *USB Cable |
| 5..... | *RS232 Cable |
| 6..... | *12V DC Jack |
| 7..... | *3D Emitter cable |

Installation

Connect to Video Sources



NOTE

- ❖ Due to the difference in applications for each country, some regions may have different accessories.
- ❖ For more detailed information about connecting to the 3D emitter and 3D glasses, please refer to their user's guides.
- ❖ Use high speed HDMI cable to connect Blu-ray 3D player.
- ❖ (*) Optional Accessory

Connect to 3D Video Devices



- ❖ The 3D video source device must be powered on before the 3D projector.

Once you have connected your devices together with HDMI cables, as shown in the diagram, you are ready to begin. Power ON your 3D video source and your 3D projector.

PlayStation® 3 Games

- Make sure that you have updated your console to the latest software version.
- Go to the "Settings menu -> Display settings -> Video output -> HDMI". Select "Automatic" and follow the on-screen instructions.
- Insert your 3D game disc. Alternatively you can download games (and 3D updates) via the PlayStation® network.
- Launch the game. In the in-game menu, select "Play in 3D".

Blu-ray 3D™ Player

- Make sure that your player can support 3D Blu-ray™ disc and that 3D output is enabled.
- Insert the 3D Blu-ray™ disc into the player, press "Play".

3D TV (e.g. SKY 3D, DirecTV)

- Contact your TV service provider to enable any 3D channels on your channel package.
- Once enabled, switch to the 3D channel.
- You should see two images side-by-side.
- Switch to the "SBS Mode" of the 3D projector. The option is located in the "Display" section of the projector OSD menu.

3D Device (e.g. 3D DV/DC) with 2D 1080i side by side signal output

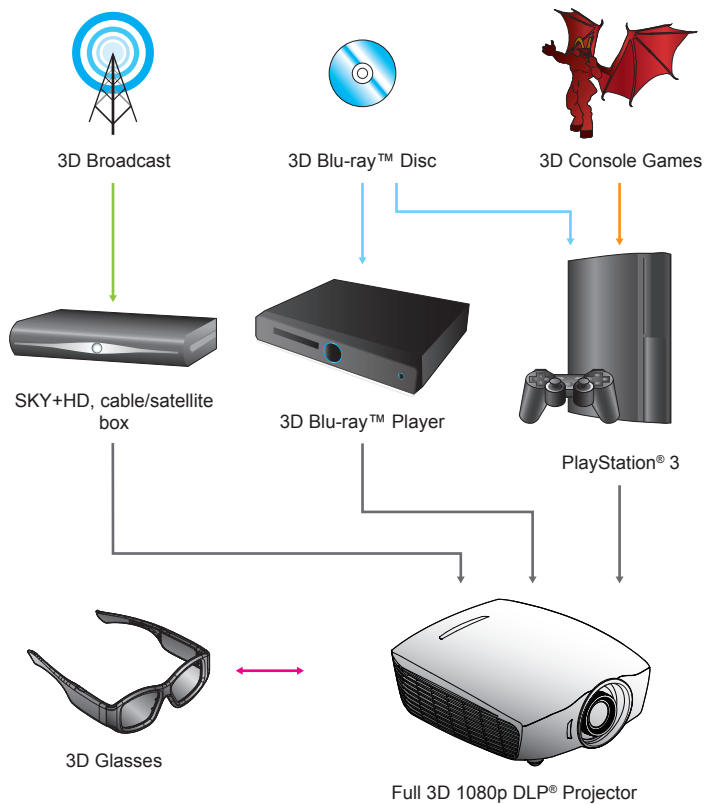
- Connect your 3D device and switch to out 3D content with 2D side-by-side output to 3D Projector.
 - You should see two images side-by-side.
- Switch to the "SBS Mode" of the 3D projector. The option is located in the "Display" section of the projector OSD menu.

If watching 3D content from an HDMI 1.4a source (e.g. 3D Blu-ray) your 3D glasses should always be in sync. If watching 3D content from an HDMI 1.3 source (e.g. 3D broadcast using SBS mode) it may be necessary to use the projector's 3D Sync-Invert option to optimize your 3D experience. The option is located in the "Display ->3D" section of the projector OSD menu.



- ❖ If input video is normal 2D, please press "3D Format" and switch to "Auto".
- ❖ If "SBS Mode" is active, 2D video content will not display correctly.

Installation






❖ For more detailed information, please refer to 3D glasses user's guide.

Using the 3D glasses

1. To turn ON 3D glasses: Press the "Power" button and the LED will flash one time indicating the glasses are ready to use 3D mode.
2. Verify that 3D content is being sent to the projector and signal is compatible with projector specifications.
3. Turn on the "3D Mode" (DLP-Link/VESA 3D - depending on which type of glasses you are using) of the 3D projector. The option is located in the "Display" section of the projector OSD menu.
4. Turn on 3D glasses and verify image appears in 3D without eyestrain.
5. If the image does not appear in 3D, please check 3D device set up correctly to send out 3D image or not. Or "SBS Mode" should turn on when input signal is 2D 1080i side-by-side and repeat previous steps 1 ~ 4.
6. It may be necessary to use projector's "3D Sync-Invert" option to optimize your 3D experience. The option is located in the "Display" section of the projector OSD menu.
7. To turn OFF 3D glasses: Press the "Power" button and hold until the LED switches off.
8. For more detailed information, please refer to the 3D glasses user's guide, or manufacturer's Website.

Powering On/Off the Projector

Powering On the Projector

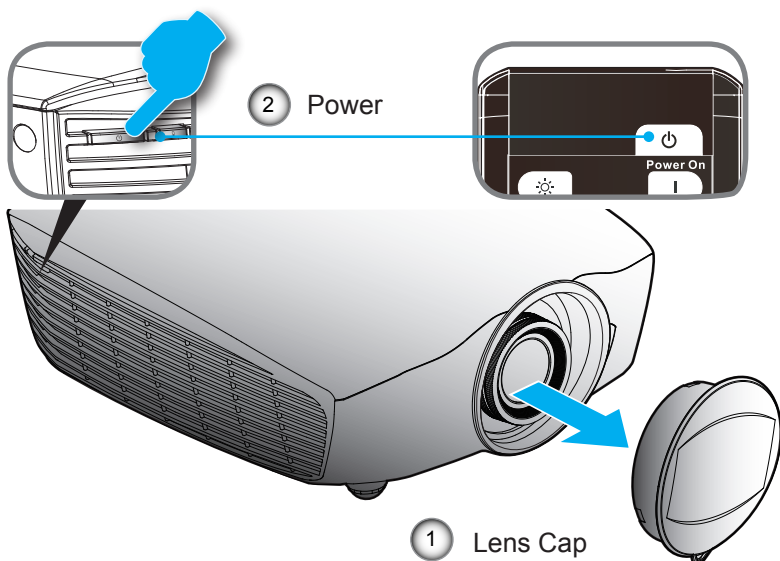
1. Remove the lens cap. ❶
2. Securely connect the power cord and signal cable. When connected, the Power LED will turn red.
3. Turn on the projector by pressing “” button either on the side of the projector or on the remote. The Power LED will now turn blue. ❷

The startup screen will display in approximately 10 seconds. The first time you use the projector, you will be asked to select the preferred language.

4. Turn on and connect the source that you want to display on the screen (computer, notebook, video player, etc). The projector will detect the source automatically. If not, push menu button and go to “SETUP”. Make sure that the “Source Lock” has been set to “Off”.
- ❖ If you connect multiple sources at the same time, press the “SOURCE” button on the control panel or the direct source keys on the remote control to switch between inputs.

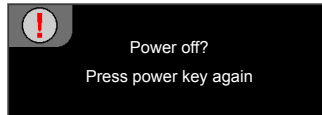


- ❖ Turn on the projector first and then select the signal sources.



Powering Off the Projector

1. Press the “I” button on the remote control or “⏻” button on the side of the projector two times with one second interval to turn off the projector. The following message will be displayed on the screen.



Press the “I” button again to confirm otherwise the message will disappear after 15 seconds. When you press the “I” button for the second time, the projector will shut down.

2. The cooling fans continue to operate for about 10 seconds for cooling cycle and the Power LED will flash blue. When the Power LED lights solid red, the projector has entered standby mode.

If you wish to turn the projector back on, you must wait until the projector has completed the cooling cycle and has entered standby mode. Once in standby mode, simply press “⏻” button to restart the projector.

3. Disconnect the power cord from the electrical outlet and the projector.
4. Do not turn on the projector immediately following a power off procedure.



- ❖ Contact the nearest service center if the projector displays these symptoms. See pages 61-62 for more information.

Warning Indicator

When the warning indicators (see below) come on, the projector will automatically shutdown:

- ❖ “Power” LED indicator flashes red.
- ❖ “TEMP” LED indicator is lit red and if “Power” LED indicator flashes red. This indicates the projector has overheated. Under normal conditions, the projector can be switched back on.
- ❖ “TEMP” LED indicator flashes red and if “Power” LED indicator flashes red.

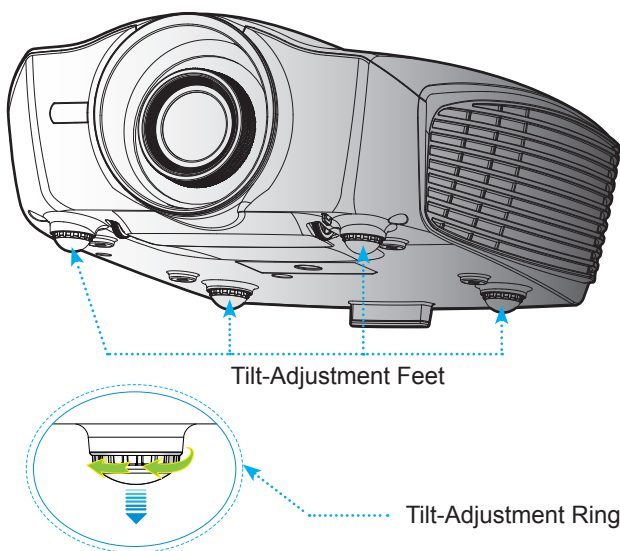
Unplug the power cord from the projector, wait for 30 seconds and try again. If the warning indicator light up again, please contact your nearest service center for assistance.

Adjusting the Projected Image

Adjusting the Projector's Height

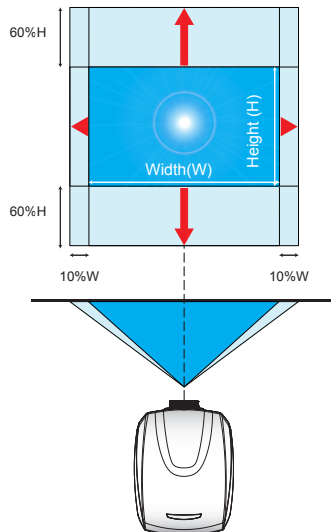
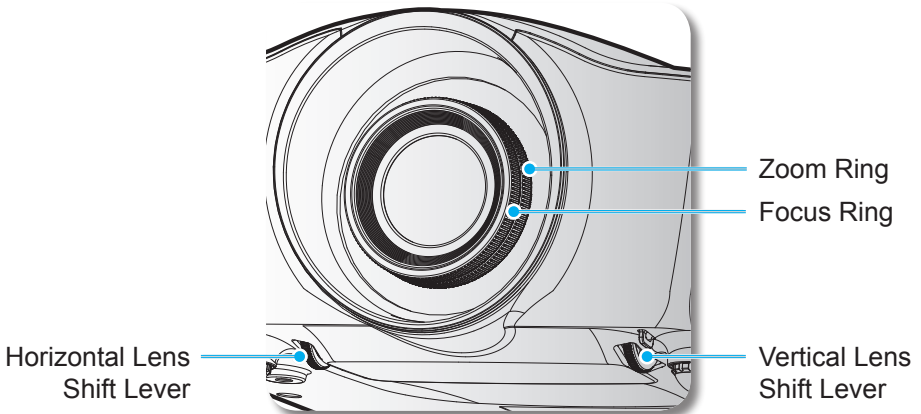
The projector is equipped with elevator feet for adjusting the image height.

1. Locate the adjustable foot you wish to modify on the underside of the projector.
2. Rotate the adjustable ring clockwise to raise the projector or counter clockwise to lower it. Repeat with the remaining feet as needed.



Adjusting the Projector's Position

To determine where to position the projector, consider the size and shape of your screen, the location of your power outlets, and the distance between the projector and the rest of your equipment.



Installation



❖ This table is for user's reference only.

Lens

Optoma Model Name	Wide version	Tele Version
Focal Length (f) (mm)	18.07~22.59	22.56~42.87
F number	2.0~2.32	2.3~3.39
Zoom Range (Ratio)	1.25	1.90
Zoom & Focus Adjustment	Manual	
Optical Lens Shift	Horizontal : +/-10%, Vertical : +/-60%	

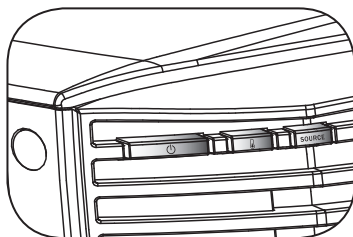


❖ Projection distance:
From screen to lens.



	Wide version		Tele Version	
Screen size	Projection Distance (mm)			
(inch)	Wide	Tele	Wide	Tele
40	1065	1335	1310	2555
50	1335	1680	1650	3205
60	1610	2020	1995	3860
70	1885	2365	2335	4510
80	2160	2705	2680	5165
90	2430	3045	3020	5815
100	2705	3390	3365	6470
150	4075	5100	5080	9730
180	4901	6137	6105	11684
200	5445	6810	6790	12995
250	6810	8520	8505	16255
300	8180	10230	10215	19520
350	9550	11940	11930	22780
400	10920	13650	13640	26040
450	12285	15360	15350	29305
500	13655	17070	17065	32565

Control Panel & Remote Control

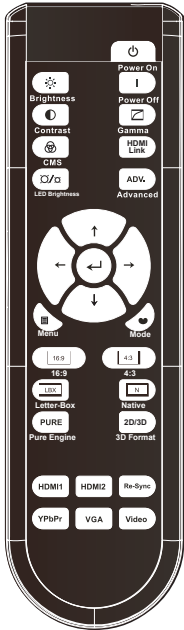
Control Panel



Using the Control Panel

Power Button /		Refer to the "Power On/Off the Projector" section on pages 16-17.
Power LED		Indicate the projector's status.
Temp LED		Indicate the projector's temperature status.
SOURCE		Press "SOURCE" to select an input signal.

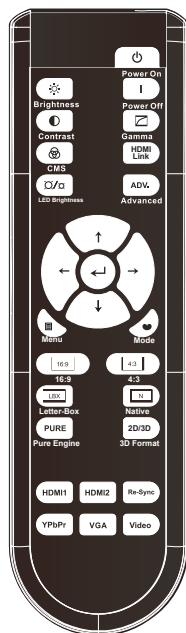
Remote Control










Using the Remote Control

Power On		Turn on the projector.
Power Off		Turn off the projector.
Gamma		Set up gamma curve type.
HDMI Link		Enables and disables the HDMI link function.
Advanced	ADV.	Display or exit the "Image Advanced" menu.
Four Directional Select Keys		Use directional select keys to select items or make adjustments to your selection.
Mode		Select a display mode for optimised settings for different applications. (refer to page 28)
4:3		Scale the image at a 4:3 (1440x1080) aspect ratio.
Native		The input source will be displayed without scaling.
3D Format	2D/3D	Manually select a 3D mode that matches your 3D content.
Re-Sync		Automatically synchronizes the projector to the input source.
Video		Press "Video" to choose Composite video source.
HDMI2		Press "HDMI2" to choose source from HDMI 2 connector.
VGA		Press "VGA" to choose source from VGA-In/YPbPr connector.
YPbPr		Press "YPbPr" to choose source from YPbPr connector.

User Controls



Using the Remote Control

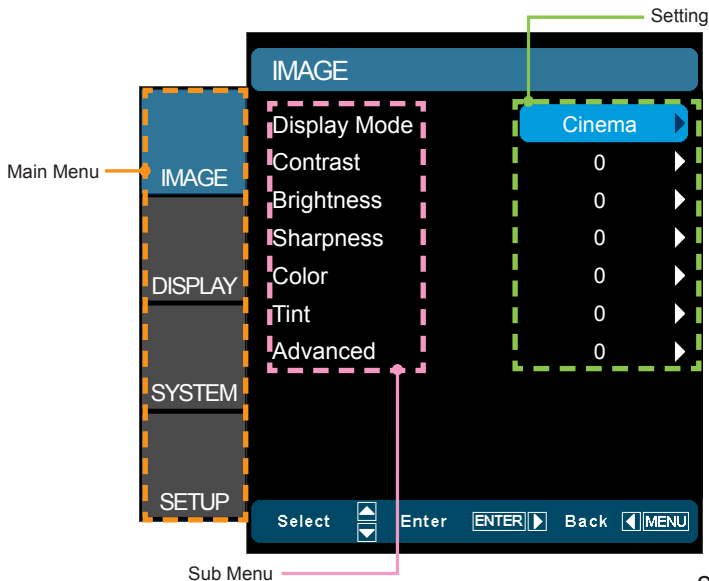
HDMI1		Press "HDMI1" to choose source from HDMI 1 connector.
PureEngine	PURE	The PureEngine is a collection of advanced image processing technologies that enhances the quality of the displayed image.
LBX		Enable the viewing of the letterboxed nonanamorphically enhanced movie at full screen width. Part of the original image will be lost if the image aspect ratio is less than 2.35:1.
16:9	16:9	Scale the image at a 16:9 (1920x1080) aspect ratio.
Menu		Display or exit the on-screen display menus for projector.
Enter		Confirm your item selection.
LED Brightness		Increase/Decrease the luminance of the image. (refer to page 30)
CMS (Color Management System)		Select one of the colors (R/G/B/ C/M/Y) to adjust its x/y offset and brightness.
Contrast		Control the degree of difference between the lightest and darkest parts of the picture.
Brightness		Adjust the brightness of the image.

On-screen Display Menus

The Projector has multilingual On-screen Display menus that allow you to make image adjustments and change a variety of settings. The projector will automatically detect the source.

How to operate

1. To open the OSD menu, press “Menu” on the Remote Control or Control Panel.
2. When OSD is displayed, use ▲▼ keys to select any item in the main menu. While making a selection on a particular page, press ► or “Enter” key to enter sub menu.
3. Use ▲▼ keys to select the desired item in the sub menu and then press ► or “Enter” key to view further settings. Adjust the settings by ◀▶ key.
4. Select the next item to be adjusted in the sub menu and adjust as described above.
5. Press “Enter” or “Menu” to confirm, and the screen will return to the main menu.
6. To exit, press “Menu” again. The OSD menu will close and the projector will automatically save the new settings.



User Controls

Menu Tree

Main Menu	Sub Menu	Settings
IMAGE	Display Mode	Cinema / Film / Reference / Photo / Bright / 3D / ISF Day / ISF Night / User
	Contrast	-50~50
	Brightness	-50~50
	Sharpness	0~15
	#1 Color	-50~50
	#1 Tint	-50~50
	Advanced	Noise Reduction 0~10
		Gamma Film / Video / Graphics / Standard
		PureEngine UltraDetail / PureColor / PureMotion / PureEngine Demo / Exit
		LED Brightness Power / DynamicBlack 1 / DynamicBlack 2 / DynamicBlack 3
		Color Settings Color Temperature / Color Gamut / CMS / RGB Gain/Bias / Color Space / RGB Channel
DISPLAY	Exit	
	Format	4:3 / 16:9 / LBX / Native / Auto235 / Auto235_Subtitle
	Zoom	0~10
	Edge Mask	0~5
	Image Shift	H -100~100
		V -100~100
	V Keystone	-30~30
	3D	3D Mode DLP-Link / VESA 3D
		3D Format AUTO / SBS / Top and Bottom / Frame Sequential / 2D->3D
		3D -> 2D 3D / L / R
		2D->3D Low / Middle / High
SYSTEM	#2 3D Sync. Invert	On / Off
	Exit	
	Menu Location	
	LED Hours	
	Projection	
	Test Pattern	Off / Grid / White
	Background Color	Blue / Gray / Black
	IR Function	All / Front / Top
	12V Trigger A	On / Off
	12V Trigger B	Off
		On 4:3 / 16:9 / LBX / Native / Exit
		Auto 3D
	Exit	
	Anamorphic Lens	None / Fixed / Movable

User Controls

Main Menu	Sub Menu	Settings
SETUP	Language	English / Deutsch / Français / Italiano / Español / Português / Svenska / Nederlands / Norsk / Dansk / Polski / Suomi / Русский / ελληνικό / Magyar / Čeština / عربي / 繁體中文 / 简体中文 / 日本語 / 한국어 / Türkçe / ไทย
	Input Source	HDMI 1 / HDMI 2 / Component / VGA / Video / Exit
	HDMI Link Settings	<div> <div>HDMI Link</div> <div>On / Off</div> </div> <div> <div>Inclusive of TV</div> <div>Yes / No</div> </div> <div> <div>Power On Link</div> <div>Mutual/PJ -> Device/Device -> PJ</div> </div> <div> <div>Power Off Link</div> <div>On / Off</div> </div>
	Source Lock	On / Off
	High Altitude	On / Off
	Information Hide	On / Off
	Auto Power Off	0~180
	Signal	<div> <div>Frequency</div> <div>0~100</div> </div> <div> <div>Phase</div> <div>-50~50</div> </div> <div> <div>H. Position</div> <div>-50~50</div> </div> <div> <div>V. Position</div> <div>-50~50</div> </div> <div> <div>Automatic</div> <div>Enable / Disable</div> </div> <div> <div>Exit</div> <div></div> </div> <div> <div>White Level</div> <div>-50~50</div> </div> <div> <div>Black Level</div> <div>-50~50</div> </div> <div> <div>Saturation</div> <div>-50~50</div> </div> <div> <div>Hue</div> <div>-50~50</div> </div> <div> <div>IRE</div> <div>0 IRE / 7.5 IRE</div> </div> <div> <div>Exit</div> <div></div> </div>
	Reset	<div> <div>Current</div> <div>Cancel / Yes</div> </div> <div> <div>All</div> <div>Cancel / Yes</div> </div>

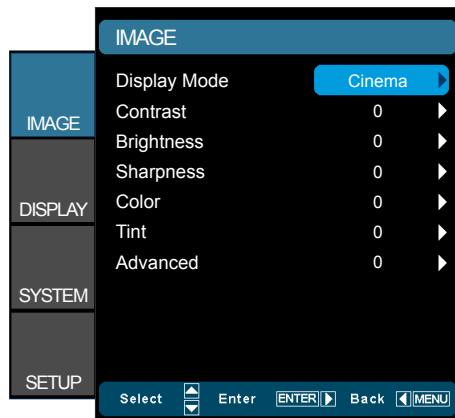


Please note that the on-screen display (OSD) menus vary according to the signal type selected and the projector model you are using.

(#1) "Color" and "Tint" are only supported in Video mode.

(#2) "3D Sync Invert" is only available when 3D is enabled.

IMAGE



Display Mode

There are many factory presets optimized for various types of images.

- ▶ Cinema: Default settings for home theater.
- ▶ Reference: This mode is intended to reproduce, as close as possible, the image the way the movie director intended. Color, color temperature, brightness, contrast and gamma settings are all configured to standard reference levels.
- ▶ Film: The purest color settings for home theater.
- ▶ Photo: Optimized for displaying photographic images.
- ▶ Bright: Maximum brightness from PC input.
- ▶ 3D: Recommended setting for 3D mode enabled. Any further adjustments by the user in 3D will be saved in this mode for further use.
- ▶ ISF Day: Optimize the image with the ISF Day mode to be perfectly calibrated and high picture quality.
- ▶ ISF Night: Optimize the image with the ISF Night mode to be perfectly calibrated and high picture quality.
- ▶ User: User's settings.

Contrast

The contrast controls the degree of difference between the lightest and darkest parts of the picture.

- ▶ Press the ◀ to decrease the contrast.
- ▶ Press the ▶ to increase the contrast.

Brightness

Adjust the brightness of the image.

- ▶ Press the ◀ to darken image.
- ▶ Press the ▶ to lighten the image.

Sharpness

Adjust the sharpness of the image.

NOTE

- ❖ "ISF Day" and "ISF Night" will not be shown when the ISF modes have not been calibrated.

- ▶ Press the ◀ to decrease the sharpness.
- ▶ Press the ▶ to increase the sharpness.

Color

Adjust a video image from black and white to fully saturated color.

- ▶ Press the ◀ to decrease the color saturation in the image.
- ▶ Press the ▶ to increase the color saturation in the image.

Tint

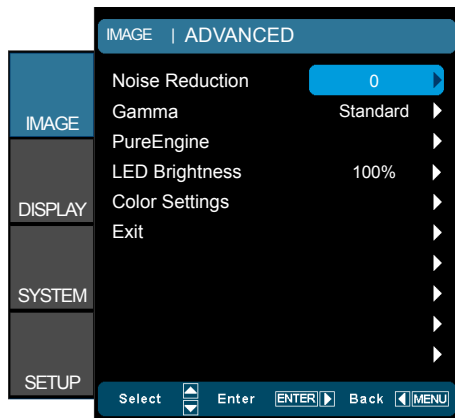
Adjust the color balance of red and green.

- ▶ Press the ◀ to increase the amount of green in the image.
- ▶ Press the ▶ to increase the amount of red in the image.



❖ “Color” and “Tint” are only supported for composite and component sources.

IMAGE | Advanced



Noise Reduction

The Noise Reduction reduces the amount of visible noise interlaced signals. The range is from “0” to “10”. (0: Off)

Gamma

This allows you to set up gamma curve type. After the initial setup and fine tuning is completed, utilize the Gamma Adjustment steps to optimize your image output.

- ▶ Film: for home theater.
- ▶ Video: for video or TV source.
- ▶ Standard: for standardized setting.
- ▶ Graphics: for PC / Photo source.

PureEngine

The PureEngine is a collection of advanced image processing technologies that enhances the quality of the displayed image.

LED Brightness

- ▶ Power: Manually adjust the LED brightness (100%~50%).
- ▶ DynamicBlack 1: Automatically adjusts the LED brightness between 100% ~ 13%.
- ▶ DynamicBlack 2: Automatically adjusts the LED brightness between 100% ~ 5%.
- ▶ DynamicBlack 3: Automatically adjusts the LED brightness between 100% ~ 0%.

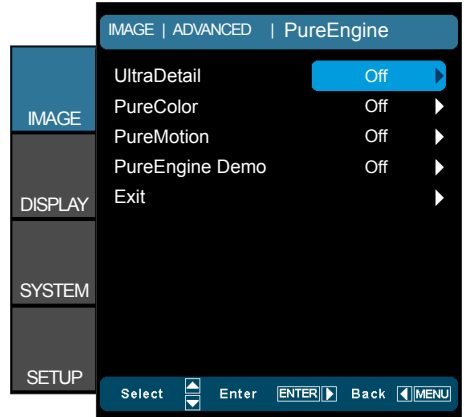
Color Settings

Press ▶ into the next menu and then use ▲ or ▼ to select item.



❖ While the 3D is ON and 3D Mode is DLP-Link, the Dynamic Black function will be disabled.

IMAGE | Advanced | PureEngine



UltraDetail

UltraDetail is an edge enhancement tool that enables the edges in the projected image to be enhanced thus providing more perceived detail.



- ❖ Turn the PureMotion feature to "OFF" to reduce the response lag during gameplay.

PureColor

This adjustable item utilizes a new color-processing algorithm and enhancements to enable the picture's vividness to be significantly increased. The range is from "0" to "5".

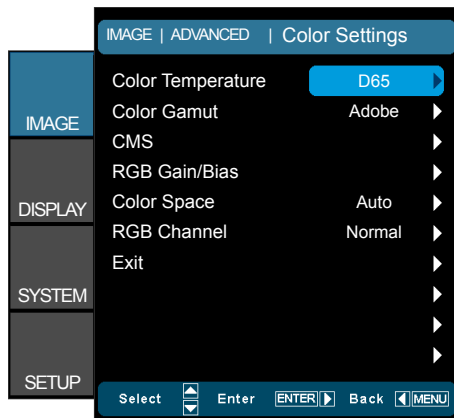
PureMotion

PureMotion uses sophisticated algorithms to ensure that the natural motion in the image is preserved.

PureEngine Demo

This feature enables you to see the difference in the image quality between the raw unprocessed image and the image processed as processed by the PureEngine. Use this mode to check the adjustments that you make to the PureEngine settings.

IMAGE | Advanced | Color Settings



Color Temperature

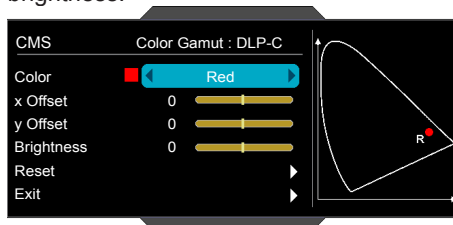
Select a color temperature from D50, D65, D75, D83, D93 and Native.

Color Gamut

Select an appropriate color gamut from Native, Adobe, DLP-C, HDTV, or SMPTE-C.

CMS (Color Management System)

Press ► into the next menu and then use ▲ or ▼ to select item. Select one of the colors (R/G/B/C/M/Y) to adjust its x/y offset and brightness.

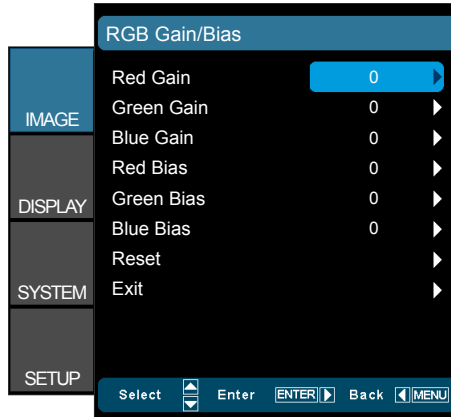


- ▶ Color: Use ◀ or ▶ to select from Red, Green, Blue, Cyan, Magenta or Yellow colors.
- ▶ x offset: Use ◀ or ▶ to adjust the x offset value of selected color.
- ▶ y offset: Use ◀ or ▶ to adjust the y offset value of selected color.
- ▶ Brightness: Use ◀ or ▶ to adjust the brightness value of selected color.
- ▶ Reset: Choose "Yes" to return the factory default settings for color adjustments.

User Controls

RGB Gain/Bias

Press ► into the next menu and then use ▲ or ▼ to select item.



- ▶ Use ◀ or ▶ to select Red, Green, or Blue for brightness (Gain) and contrast (Bias).
- ▶ Reset: Choose “Yes” to return the factory default settings for color adjustments.

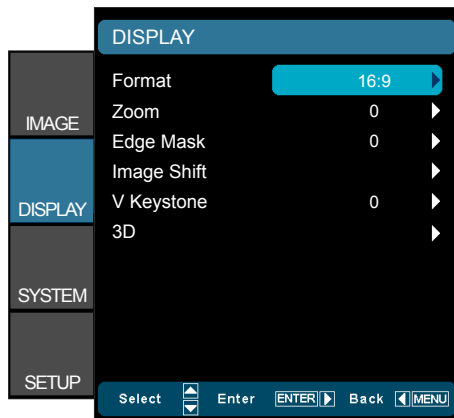
Color Space

Select an appropriate color matrix type from AUTO, RGB(0-255), RGB(16-235) or YUV.

RGB Channel

Use ◀ or ▶ to select from Normal, Red, Green or Blue channels.

DISPLAY



- ❖ (#1) This function is not supported in the movable or fixed of anamorphic lens.
- ❖ (#2) This function is only supported when System/Anamorphic Lens is Fixed or Movable.
When Auto235 feature is selected the 12v trigger will send power to the anamorphic lens if the source format is 2.35:1. It will not send the power when the source format is 4:3 or 16:9.

Format

Use this function to choose your desired aspect ratio.

- ▶ 4:3: This format is for 4x3 input sources.
- ▶ 16:9: This format is for 16x9 input sources, like HDTV and DVD enhanced for Widescreen TV.
- ▶ LBX: This format is for non-16x9, letterbox source and for users who use external anamorphic lens to display 2.35:1 aspect ratio using full resolution.
- ▶ Native ^(#1): This format displays the original image without scaling.
- ▶ Auto235 ^(#2): Automatically selects the appropriate display format.
- ▶ Auto235_Subtitle ^(#2): Automatically selects the appropriate display format with subtitle.

HDMI	Auto235 OFF			
	4:3	16:9	LBX	Native
2D/HQFS/2D->3D	✓	✓	✓	✓
SBS		✓		
Top and Bottom		✓	✓	
1080p24FP	✓	✓	✓	✓
720pFP	✓	✓	✓	

User Controls

HDMI	Auto235 ON				
	4:3	16:9	LBX	Auto235	Auto235 subtitle
2D/HQFS/2D->3D	✓	✓	✓	✓	✓
SBS		✓			
Top and Bottom		✓	✓	✓	✓
1080p24FP	✓	✓	✓	✓	✓
720pFP	✓	✓	✓	✓	✓

Component	Auto235 OFF			
	4:3	16:9	LBX	Native
2D/HQFS/2D->3D	✓	✓	✓	✓
SBS		✓		
Top and Bottom		✓		

Component	Auto235 ON				
	4:3	16:9	LBX	Auto235	Auto235 subtitle
2D/HQFS/2D->3D	✓	✓	✓	✓	✓
SBS		✓			
Top and Bottom		✓			



❖ Pressing "Native" button on the remote will be "Auto235" when Anamorphic lens is fixed or movable.

Detail informations about LBX mode:

1. Some Letter-Box Format DVDs are not enhanced for 16x9 TVs. In this situation, the image will not look right when displayed in 16:9 mode. In this situation, please try to use the 4:3 mode to view the DVD. If the content is not 4:3, there will be black bars around the image in 16:9 display. For this type of content, you can use LBX mode to fill the image on the 16:9 display.
2. If you use an external anamorphic lens, this LBX mode also allows you to watch a 2.35:1 content (include Anamorphic DVD and HDTV film source) that support anamorphic wide is enhanced for 16x9 Display in a wide 2.35:1 image. In this case, there are no black bars. LED power and vertical resolution are fully utilized.

User Controls



- ❖ (#1) This function is not supported in SBS mode.
- ❖ Pressing "Native" button on the remote will be "Auto235" when Anamorphic lens is fixed or movable.

No anamorphic lens attached 1080p Scaling Table					
16:9 Screen	480i/p	576i/p	1080i/p	720p	PC
4:3	1440 x 1080 center				
16:9	1920 x 1080 center				
LBX (#1)	1920 x 1440 center, then get the central 1920 x 1080 image to display				
Native	No resize image, 1:1 mapping and centered. This format shows original image without scaling.				
Auto235	If this format is select, Screen type will auto become 16:9 (1920x1080) If source is 4:3, auto resize to 1440 x1080 If source is 16:9 auto resize to 1920x1080 If source is 16:10 auto resize to 1920 x 1200 and cut 1920x1080 area to display				

When anamorphic lens is movable					
16:9 Screen	480i/p	576i/p	1080i/p	720p	PC
4:3	1440 x 1080 center				
16:9	1920 x 1080 center				
LBX (#1)	Catch 720x363 (Center)	Catch 720x436 (Center)	Catch 1920x817 (Center)	Catch 1920x545 (Center)	Catch 75.65% of height (Center)
	Scale to 1920x1440, then get the central 1920x1080 image to display				
Auto235 (#1) (same button on remote of Native)	When source is 2.35:1 (with black bar at top/bottom), Doing LBX format. When source isn't 2.35:1 that is full 4x3 or 16x9 (There is no black bar at top/bottom), doing 16x9 format				
Auto235_Subtitle	Catch 720x422 (bottom)	Catch 720x506 (bottom)	Catch 1920x948 (bottom)	Catch 1920x632 (bottom)	Catch 87.8% of height (bottom)
	When source is 2.35:1 (with black bar at top/bottom), Doing above catching rule and Scale to 1920x1440, then get the central 1920x1080 image to display. When source isn't 2.35:1 that is full size 4x3 or 16x9 (There is no black bar at top/bottom), doing 16x9 format				

User Controls

When anamorphic lens is fixed					
16:9 Screen	480i/p	576i/p	1080i/p	720p	PC
4:3	1080 x 1080 center				
16:9	1440 x 1080 center				
LBX (#1)	Catch 720x363 (Center)	Catch 720x436 (Center)	Catch 1920x817 (Center)	Catch 1920x545 (Center)	Catch 75.65% of height (Center)
	Scale to 1920x1440, then get the central 1920x1080 image to display				
Auto235 (#1) (same button on remote of Native)	When source is 2.35:1 (with black bar at top/bottom), Doing LBX format. When source isn't 2.35:1 that is full 4x3 or 16x9 (There is no black bar at top/bottom), doing 16x9 format				
Auto235_Subtitle	Catch 720x422 (bottom)	Catch 720x506 (bottom)	Catch 1920x948 (bottom)	Catch 1920x632 (bottom)	Catch 87.8% of height (bottom)
	When source is 2.35:1 (with black bar at top/bottom), Doing above catching rule and Scale to 1920x1440, then get the central 1920x1080 image to display. When source isn't 2.35:1 that is full size 4x3 or 16x9 (There is no black bar at top/bottom), doing 16x9 format				



- ❖ Each I/O has different setting of "Edge Mask".

Edge Mask

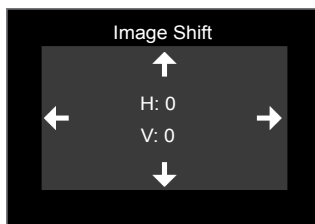
Edge mask the image to remove video encoding noise on the edge of video source.

Zoom

- ▶ Press the ◀ to reduce the size of an image.
- ▶ Press the ▶ to magnify an image on the projection screen.

Image Shift

Press ▶ into the next menu as below and then use ▲ or ▼ or ◀ or ▶ to select item.

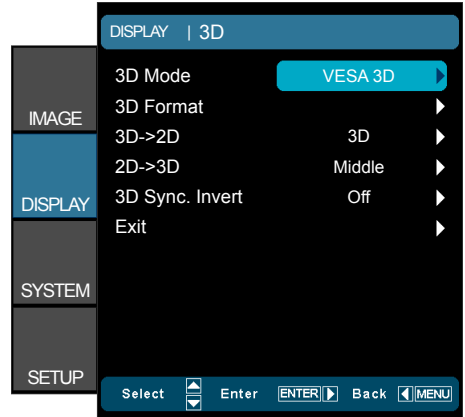


- ▶ H: Press the ◀ ▶ to shift the projected image position horizontally.
- ▶ V: Press the ▲ ▼ to shift the projected image position vertically.

V Keystone

Press the ◀ or ▶ to adjust image distortion vertically and make a squarer image.

DISPLAY | 3D



- ❖ “3D Sync. Invert” function wouldn’t save the setting. It will set to “Off” when powers on and changes source.
- ❖ 3D Format is only supported on 3D Timing on page 55.
- ❖ “3D Format” is only supported on non-HDMI 1.4a 3D timing.
- ❖ While the 3D is ON and 3D Mode is DLP-Link, the Dynamic Black function will be disabled.

3D Mode

- ▶ DLP-Link: Select “DLP-Link” to use optimized settings for DLP Link 3D Glasses. (refer to pages 13-15).
- ▶ VESA 3D: Select “VESA 3D” to use optimized setting for VESA 3D Glasses. (refer to pages 13-15).

3D -> 2D

- ▶ 3D: Display 3D signal.
- ▶ L (Left): Display the left frame of 3D content.
- ▶ R (Right): Display the right frame of 3D content.

2D -> 3D

Select 3D depth of field (or strength) from Low, Middle or High.

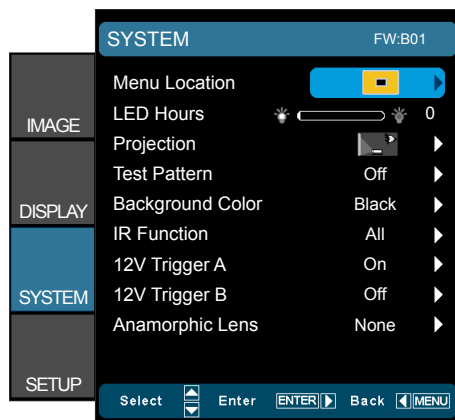
3D Format

- ▶ Auto: Display the native format.
- ▶ SBS: Display 3D signal in “Side-by-Side” format.
- ▶ Top and Bottom: Display 3D signal in “Top and Bottom” format.
- ▶ Frame Sequential: Display 3D signal in “Frame Sequential” format.
- ▶ 2D->3D: 2D signal transform 3D signal.

3D Sync. Invert

- ▶ Press the “On” to invert left and right frame contents.
- ▶ Press the “Off” for default frame contents.

SYSTEM



Menu Location

Choose the menu location on the display screen.

LED Hours

Display the LED time.

Projection



- ❖ Rear-Desktop and Rear-Ceiling are to be used with a translucent screen.



Front-Projection

This is the default selection. The image is projected straight on the screen.



Rear-Desktop

When selected, the image will appear reversed.



Front-Ceiling

When selected, the image will turn upside down.



Rear-Ceiling

When selected, the image will appear reversed in upside down position

Test Pattern

Display a test pattern. There are Grid, White pattern and Off.

Background Color

Use this feature to display a “Black”, “Blue”, or “Grey” screen when no signal is available.

IR Function

- ▶ All: Choose “All”, the projector can be operated by the remote control from front or top IR receiver.
- ▶ Front: Choose “Front”, the projector can be operated by the remote control from front IR receiver.

User Controls

- ▶ Top: Choose “Top”, the projector can be operated by the remote control from top IR receiver.

12V Trigger A

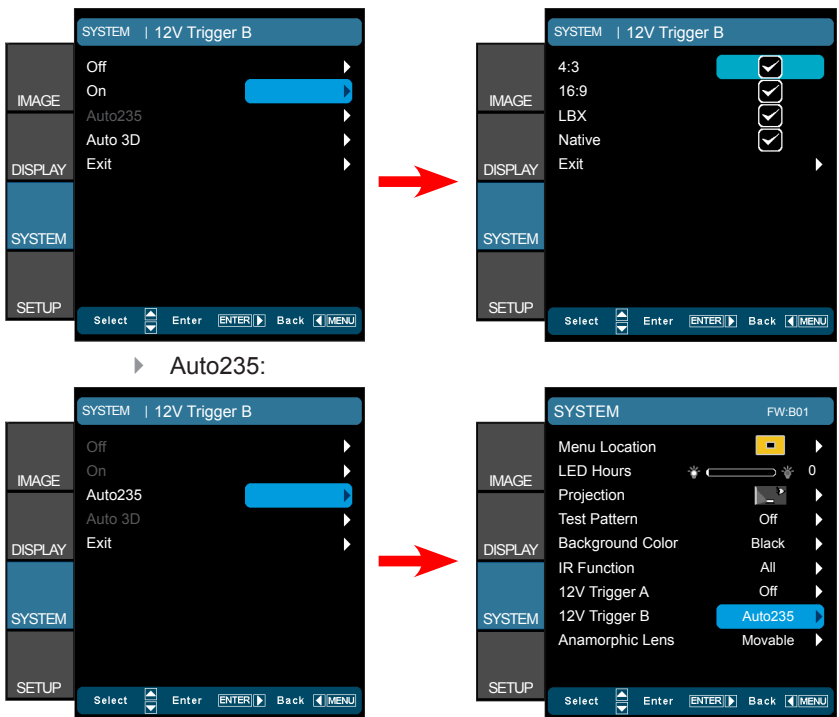
12V trigger A provides a standard trigger for motorized screens.

12V Trigger B (#1)

- ▶ Press the “Off” to disable the trigger.
- ▶ Press the “On” to enable the trigger and the programmable sub-menu. The sub-menu is accessed by selecting the “On” option then pressing the “Enter” button on the remote control. Checking an option in the sub-menu will activate the trigger when the corresponding display mode is selected. For the example, 4:3 has been selected – this means that Trigger B will be active when the projector display mode is set to 4:3. The trigger will be inactive for all the other display mode options.



❖ (#1) When the movable lens is selected, this item will be gray out and become “Auto235”.



- ▶ Auto 3D: When “Auto 3D” is enabled, the projector will automatically detect when a 3D image is shown and will activate the trigger on this port.

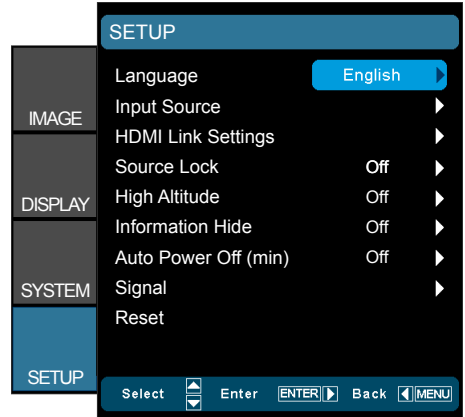
Anamorphic Lens

Select an anamorphic Lens from “None”, “Fixed”, or “Movable”.

	(12V Trigger B)			
(Anamorphic Lens)	Off	On	Auto235	Auto 3D
None	✓	✓		✓
Fixed			✓	
Movable			✓	

User Controls

SETUP



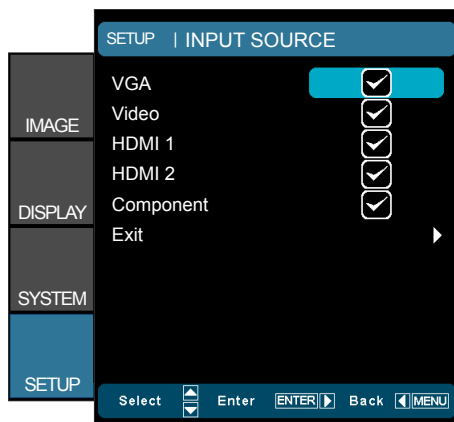
Language

Choose the multilingual OSD menu. Press ► into the sub menu and then use the ▲ or ▼ or ◀ or ▶ key to select your preferred language. Press “Enter” to finalize the selection.



Input Source

Use this option to enable / disable input sources. Press ► to enter the sub menu and select which sources you require. Press “Enter” to finalize the selection. The projector will only search for inputs that are enabled.



HDMI Link Settings

See pages 45-46 for more information.

Source Lock

- ▶ On: The projector will only search current input connection.
- ▶ Off: The projector will search for other signals if the current input signal is lost.

High Altitude

When "On" is selected, the fans will spin faster. This feature is useful in high altitude areas where the air is thin.

Information Hide

- ▶ On: Choose "On" to hide the info message.
- ▶ Off: Choose "Off" to show the "searching" message.

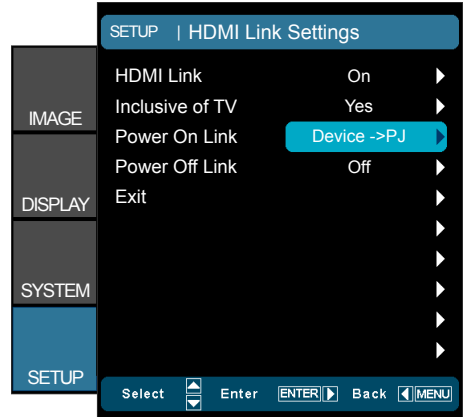
Auto Power Off (min)

Sets the countdown timer interval. The countdown timer will start, when there is no signal being sent to the projector. The projector will automatically power off when the countdown has finished (in minutes).

Reset

- ▶ Current: Choose "Yes" to return the display parameters on this menu to the factory default settings.
- ▶ All: Choose "Yes" to return the display parameters on all menus to the factory default settings.

SETUP | HDMI Link Settings

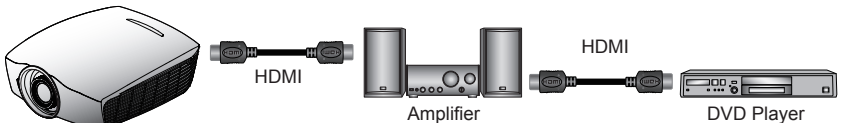


Using HDMI Link



- ❖ When HDMI Link is set to Off, the standby mode is <0.5W.

- When you connect HDMI CEC-compatible devices to the projector with HDMI cables, you can control them on same Power On or Power Off status using the HDMI Link control feature on the projector's OSD.
- This lets one device or multiple devices in a group Power On or Power Off via HDMI Link Feature.
- In a typical configuration, your DVD player may be connected to the projector through an amplifier or home theater system.



- ❖ Some HDMI Link functions may not operate, depending on the connected product's design and compliance with the HDMI CEC standard.

HDMI Link

Enable/Disable the HDMI Link function. The Inclusive TV, Power on Link, and Power off Link options will only available if the setting is set to On.

Inclusive of TV

If the setting is set to "Yes", both TV and projector will be automatically turned off at the same time. To prevent both devices to be turned off at the same time, set the setting to "No".

Power On Link

CEC power on command

- ▶ Mutual: Both projector and CEC device will be turned on simultaneously.

- ▶ PJ -> Device: The CEC device will be turned on only after the projector is switched on.
- ▶ Device -> PJ: The projector will be switched on only after the CEC device is turned on.

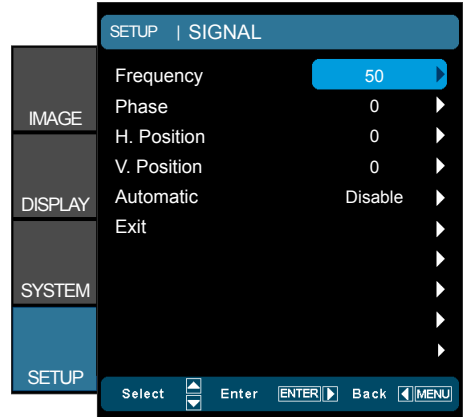
Power Off Link

If the setting is set to "On", both HDMI Link and projector will be automatically turned off at the same time. Set to "Off", both HDMI Link and projector will be not automatically turned off at the same time.

SETUP | Signal (VGA)



❖ "Signal" is only supported in Analog VGA (RGB) signal.



Frequency

Change the display data frequency to match the frequency of your computer's graphic card. Use this function only if the image appears to flicker vertically.

Phase

Synchronize the signal timing of the display with the graphic card. If the image appears to be unstable or flickers, use this function to correct it.

H. Position

- ▶ Press the ◀ to move the image left.
- ▶ Press the ▶ to move the image right.

V. Position

- ▶ Press the ◀ to move the image down.
- ▶ Press the ▶ to move the image up.

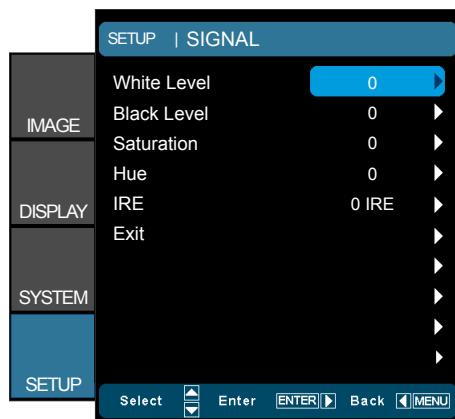
Automatic

Automatically configures the signal (the Frequency and Phase items are grayed out). If Automatic is disabled, the Frequency and Phase items will appear for user to manually tune and save the settings.

SETUP | Signal (Video)



- ❖ "Signal" is not supported when the source is HDMI.
- ❖ "IRE" is only supported on NTSC signal.



White Level

Allow user adjust White Level when inputting Video signals.

Black Level

Allow user adjust Black Level when inputting Video signals.

Saturation

Adjust a video image from black and white to fully saturated color.

- ▶ Press the ◀ to decrease the amount of color in the image.
- ▶ Press the ▶ to increase the amount of color in the image.

Hue

Adjust the color balance of red and green.

- ▶ Press the ◀ to increase the amount of green in the image.
- ▶ Press the ▶ to increase the amount of red in the image.

IRE

Adjust measurement of composite video signals.

Troubleshooting

If you experience a problem with your projector, please refer to the following information. If a problem persists, please contact your local reseller or service center.

Image Problems

No image appears on-screen

- ▶ Ensure all the cables and power connections are correctly and securely connected as described in the "Installation" section.
- ▶ Ensure the pins of connectors are not crooked or broken.
- ▶ Make sure you have removed the lens cap and the projector is switched on.

Image is out of focus

- ▶ Make sure the Lens cap is removed.
- ▶ Adjust the Focus Ring on the projector lens.
- ▶ Make sure the projection screen is between the required distance from the projector. (refer to pages 20-21)

The image is stretched when displaying 16:9 DVD title

- ▶ When you play anamorphic DVD or 16:9 DVD, the projector will show the best image in 16: 9 format on projector side.
- ▶ If you play the LBX format DVD title, please change the format as LBX in projector OSD.
- ▶ If you play 4:3 format DVD title, please change the format as 4:3 in projector OSD.
- ▶ If the image is still stretched, you will also need to adjust the aspect ratio by referring to the following:
- ▶ Please setup the display format as 16:9 (wide) aspect ratio type on your DVD player.

Image is too small or too large

- ▶ Adjust the zoom lever on the top of the projector.
- ▶ Move the projector closer to or further from the screen.
- ▶ Press "Menu" on the projector panel, go to "Display-->Format". Try the different settings.

Image has slanted sides:

- ▶ If possible, reposition the projector so that it is centered on the screen and below the bottom of the screen.
- ▶ Use "Display-->V Keystone" from the OSD to make an adjustment.

Image is reversed

- ▶ Select "System-->Projection" from the OSD and adjust the projection direction.

Blurry double image

- ▶ Press "3D Format" button and switch to "Auto" to avoid normal 2D image is blurry double image.

Two images, side-by-side format

- ▶ Press "3D Format" button and switch to "SBS" for input signal is HDMI 1.3 2D 1080i side-by-side.

Image does not display in 3D

- ▶ Check if the battery of 3D glasses is drained.
- ▶ Check if the 3D glasses is turned on.
- ▶ When the input signal is HDMI 1.3 2D (1080i side-by-side half), press "3D Format" button and switch to "SBS".

Other Problems

The projector stops responding to all controls

- ▶ If possible, turn off the projector, then unplug the power cord and wait at least 20 seconds before reconnecting power.

Remote Control Problems

If the remote control does not work

- ▶ Check the operating angle of the remote control is within $\pm 25^\circ$ both horizontally and vertically of one of the IR receivers on the projector.
- ▶ Make sure there are not any obstructions between the remote control and the projector. Move to within 6 m (20 ft) of the projector.
- ▶ Make sure batteries are inserted correctly.
- ▶ Replace batteries if they are exhausted.

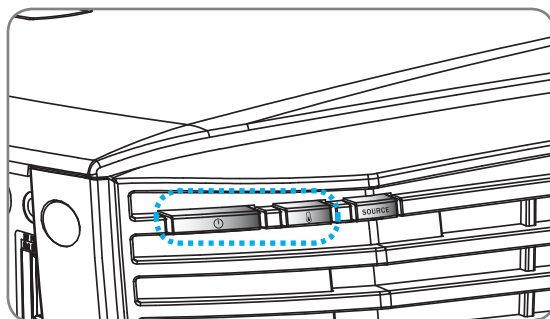
LED Lighting Messages



- ❖ Power LED on: No signal; OSD menu appears and signal had been detected.
- ❖ Power LED off: Signal had been detected but OSD menu disappears.

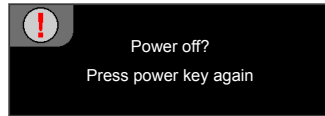
Message	Power LED (Red)	Power LED (Blue)	Temp LED (Red)
Standby State (Input power cord)	Steady light *	Off	Off
Power on (Warming)	Off	Flashing	Off
Power on and LED lighting	Off	Steady light	Off
Power off (Cooling)	Off	Flashing	Off
Error (LED fail)	Flashing	Off	Off
Error (Fan fail)	Flashing	Off	Flashing
Error (Over Temp.)	Flashing	Off	Steady light

* ON/STANDBY LED be ON when OSD appears, be OFF when OSD disappears.

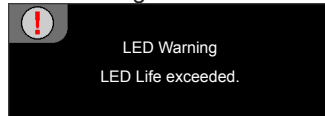


On Screen Messages

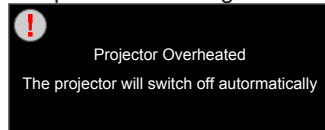
❖ Power off:



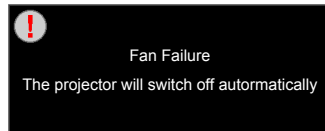
❖ LED warning:



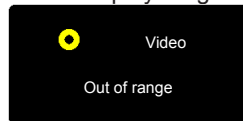
❖ Temperature warning:



❖ Fan failed:



❖ Out of display range:



Compatibility Modes

❖ Computer/Video/HDMI/Mac Compatibility

Signal	Resolution	Refresh Rate (Hz)	Video	Analog	HDMI	Mac
NTSC	720 x 480	60	O	-	-	-
PAL/SECAM	720 x 576	50	O	-	-	-
VGA	640 x 480	60	-	O	O	O
	640 x 480	67	-	O	-	-
	640 x 480	72.8	-	O	-	O
	640 x 480	85	-	O	-	O
SVGA	800 x 600	56.3	-	O	-	-
	800 x 600	60.3	-	O	O	O
	800 x 600	72.2	-	O	O	O
	800 x 600	85.1	-	O	O	O
	800 x 600	120 ^{(*)2}	-	O	O	-
XGA	1024 x 768	60	-	O	O	O
	1024 x 768	70.1	-	O	O	O
	1024 x 768	75	-	O	O	O
	1024 x 768	85	-	O	O	O
	1024 x 768	120 ^{(*)2}	-	O	O	-
HDTV (720p)	1280 x 720	50	O	O	O	-
	1280 x 720	60	O	O	O	O
	1280 x 720	120 ^{(*)2}	-	O	O	-
WXGA	1280 x 768	60	-	O	O	O ^{(*)3}
	1280 x 768	75	-	O	O	O
	1280 x 768	85	-	O	O	O ^{(*)3}
	1280 x 800	60	-	O	O	O
	1280 x 800	60	-	O	O	O
SXGA	1280 x 1024	60	-	O	O	O
	1280 x 1024	75	-	O	O	O
	1280 x 1024	85	-	O	O	-
SXGA+	1400 x 1050	60	-	O	O	-
UXGA	1600 x 1200	60	-	O	O	-
HDTV (1080p)	1920 x 1080	24	O	O	O	-
	1920 x 1080	30	-	-	O	-
	1920 x 1080	50	O	O	O	-
	1920 x 1080	60	O	O	O	O
HDTV (1080i)	1920 x 1080	50	O	-	O	-
	1920 x 1080	60	O	-	O	-
WUXGA	1920 x 1200	60 ^{(*)1}	-	O	O	O



- ❖ (*1) 1920 x 1200 @60Hz only support RB (reduced blanking).
- ❖ (*2) 3D timing for True 3D projector.
- ❖ (*3) is not supported HDMI input signal for Mac.
- ❖ 120Hz input signals may be dependent on graphics cards support.

Appendices

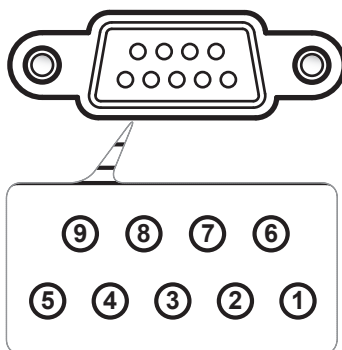
Signal	Resolution	Refresh Rate (Hz)	Video	Analog	HDMI	Mac
SDTV (576i)	720 x 576	50	O	-	O	-
SDTV (576p)	720 x 576	50	O	-	O	-
SDTV (480i)	720 x 480	60	O	-	O	-
SDTV (480p)	720 x 480	60	O	-	O	-

❖ 3D Input Video Compatibility

Input Resolution	HDMI 1.4a 3D Input	Input Timing		
		1280 x 720p @ 50Hz	Top-and-Bottom	
		1280 x 720p @ 60Hz	Top-and-Bottom	
		1280 x 720p @ 50Hz	Frame packing	
		1280 x 720p @ 60Hz	Frame packing	
		1920 x 1080i @ 50 Hz	Side-by-Side (Half)	
		1920 x 1080i @ 60 Hz	Side-by-Side (Half)	
		1920 x 1080p @ 24 Hz	Top-and-Bottom	
		1920 x 1080p @ 24 Hz	Frame packing	
	HDMI 1.3 3D Content	1920 x 1080p @ 60Hz	Side-by-Side (Half)	While 3D Format is "SBS"
		1920 x 1080i @ 50Hz		
		1920 x 1080i @ 60Hz		
		1280 x 720p @ 50Hz		
		1280 x 720p @ 60Hz		
		1920 x 1080p @ 60Hz	Top-and-Bottom	While 3D Format is "Top and Bottom"
		1920 x 1080i @ 50Hz		
		1920 x 1080i @ 60Hz		
		1280 x 720p @ 50Hz		
		1280 x 720p @ 60Hz		
		480i	HQFS	While 3D Format is "Frame sequential"

RS232 Commands and Protocol Function List

RS232 Pin Assignments



Pin no.	Spec. (from projector side)
1	N/A
2	RXD
3	TXD
4	N/A
5	GND
6	N/A
7	N/A
8	N/A
9	N/A

Baud Rate : 9600
Data Bits: 8
Parity: None
Stop Bits: 1
Flow Control : None
UART16550 FIFO: Disable

Projector Return (Pass): P
Projector Return (Fail): F
XX=00-99, projector's ID,
XX=00 is for all projectors
There is a <CR> after all ASCII commands.
0D is the HEX code for <CR> in ASCII code.

WAGE

ISPLAY

Appendices

	X	X	X	X	X	n	CR
	Projector ID	Command ID	space	variable	carriage return		
DISPLAY	Zoom			m0-10	-X062 n	P	F
	H Image Shift			m-100 +100	-X063 n	P	F
	V Image Shift			m-100 +100	-X064 n	P	F
	V Keystones			m-30 +30	-X066 n	P	F
	3D Mode	DLP Link/VESA 3D		m1m2	-X0230 n	P	F
	3D >2D	3D / L / R Auto	2D >2D, 3D >3D / 3D >L / 3D >R	m1m2m3	-X040 n	P	F
	3D	3D Format	SBS Decoding HDMI 1.3 3D timing	m1 m2 m3	-X0405 n	P	F
			Top and Bottom Frame Sequential	m3	-X0405 n	P	F
			2D >3D	m4	-X0405 n	P	F
			Med High	m5 m6	-X0405 n	P	F
SYSTEM	Menu Location	Top Left Top Right Centre Bottom Left Bottom Right	On/Off	m0m1 m1 m2 m3 m4 m5	-X0231 n -X0232 n	P	F
	LED Hours	Front-Desktop Rear-Desktop		m1	-X0098 n	0xxxx	return LED hour
	Projection	Front-Ceiling Rear-Ceiling		m2 m3 m4	-X0171 n	P	
	Test Pattern	None / Grid / White Pattern		m0m1m2m3	-X0195 n	P	F
	Background Color	Blue Black Gray		m1 m2 m3 m4	-X0194 n	P	F
	IR Function	All/Control/Up		m0 m1 / m2	-X0111 n	P	F
	12V Trigger A	Off/On		m0m1	-X0192 n	P	F
	12V Trigger B	Off/On/255/50/100/30		m0m1m2m3	-X0205 n	P	F
		4.3	4.3 check	m0m1m2m3	-X0205 n	P	F
		16:9	16:9 check	m0m1m2m3	-X0205 n	P	F
		Letter Box	letter box check	m0m1m2m3	-X0205 n	P	F
		Native	letter box unchecked	m0m1m2m3	-X0205 n	P	F
		Exit	native unchecked	m0m1m2m3	-X0205 n	P	F
	Language	English German French Italian Spanish Portuguese Polish Dutch Swedish Norwegian/Danish Finnish Greek Traditional Chinese Simplified Chinese Japanese Korean Russian Hungarian Czech Arabic Thai Turkish HDMI 1 HDMI 2 VGA 3 x RCA Component Video		m1 m2 m3 m4 m5 m6 m7 m8 m9 m10 m11 m12 m13 m14 m15 m16 m17 m18 m19 m20 m21 m22 m23 m24 m25 m26 m27 m28 m29 m30 m31 m32 m33 m34 m35 m36 m37 m38 m39 m40 m41 m42 m43 m44 m45 m46 m47 m48 m49 m50 m51 m52 m53 m54 m55 m56 m57 m58 m59 m60 m61 m62 m63 m64 m65 m66 m67 m68 m69 m70 m71 m72 m73 m74 m75 m76 m77 m78 m79 m80 m81 m82 m83 m84 m85 m86 m87 m88 m89 m90 m91 m92 m93 m94 m95 m96 m97 m98 m99 m100 m101 m102 m103 m104 m105 m106 m107 m108 m109 m110 m111 m112 m113 m114 m115 m116 m117 m118 m119 m120 m121 m122 m123 m124 m125 m126 m127 m128 m129 m130 m131 m132 m133 m134 m135 m136 m137 m138 m139 m140 m141 m142 m143 m144 m145 m146 m147 m148 m149 m150 m151 m152 m153 m154 m155 m156 m157 m158 m159 m160 m161 m162 m163 m164 m165 m166 m167 m168 m169 m170 m171 m172 m173 m174 m175 m176 m177 m178 m179 m180 m181 m182 m183 m184 m185 m186 m187 m188 m189 m190 m191 m192 m193 m194 m195 m196 m197 m198 m199 m200 m201 m202 m203 m204 m205 m206 m207 m208 m209 m210 m211 m212 m213 m214 m215 m216 m217 m218 m219 m220 m221 m222 m223 m224 m225 m226 m227 m228 m229 m230 m231 m232 m233 m234 m235 m236 m237 m238 m239 m240 m241 m242 m243 m244 m245 m246 m247 m248 m249 m250 m251 m252 m253 m254 m255 m256 m257 m258 m259 m260 m261 m262 m263 m264 m265 m266 m267 m268 m269 m270 m271 m272 m273 m274 m275 m276 m277 m278 m279 m280 m281 m282 m283 m284 m285 m286 m287 m288 m289 m290 m291 m292 m293 m294 m295 m296 m297 m298 m299 m300 m301 m302 m303 m304 m305 m306 m307 m308 m309 m310 m311 m312 m313 m314 m315 m316 m317 m318 m319 m320 m321 m322 m323 m324 m325 m326 m327 m328 m329 m330 m331 m332 m333 m334 m335 m336 m337 m338 m339 m340 m341 m342 m343 m344 m345 m346 m347 m348 m349 m350 m351 m352 m353 m354 m355 m356 m357 m358 m359 m360 m361 m362 m363 m364 m365 m366 m367 m368 m369 m370 m371 m372 m373 m374 m375 m376 m377 m378 m379 m380 m381 m382 m383 m384 m385 m386 m387 m388 m389 m390 m391 m392 m393 m394 m395 m396 m397 m398 m399 m400 m401 m402 m403 m404 m405 m406 m407 m408 m409 m410 m411 m412 m413 m414 m415 m416 m417 m418 m419 m420 m421 m422 m423 m424 m425 m426 m427 m428 m429 m430 m431 m432 m433 m434 m435 m436 m437 m438 m439 m440 m441 m442 m443 m444 m445 m446 m447 m448 m449 m450 m451 m452 m453 m454 m455 m456 m457 m458 m459 m460 m461 m462 m463 m464 m465 m466 m467 m468 m469 m470 m471 m472 m473 m474 m475 m476 m477 m478 m479 m480 m481 m482 m483 m484 m485 m486 m487 m488 m489 m490 m491 m492 m493 m494 m495 m496 m497 m498 m499 m500 m501 m502 m503 m504 m505 m506 m507 m508 m509 m510 m511 m512 m513 m514 m515 m516 m517 m518 m519 m520 m521 m522 m523 m524 m525 m526 m527 m528 m529 m530 m531 m532 m533 m534 m535 m536 m537 m538 m539 m540 m541 m542 m543 m544 m545 m546 m547 m548 m549 m550 m551 m552 m553 m554 m555 m556 m557 m558 m559 m560 m561 m562 m563 m564 m565 m566 m567 m568 m569 m570 m571 m572 m573 m574 m575 m576 m577 m578 m579 m580 m581 m582 m583 m584 m585 m586 m587 m588 m589 m590 m591 m592 m593 m594 m595 m596 m597 m598 m599 m600 m601 m602 m603 m604 m605 m606 m607 m608 m609 m610 m611 m612 m613 m614 m615 m616 m617 m618 m619 m620 m621 m622 m623 m624 m625 m626 m627 m628 m629 m630 m631 m632 m633 m634 m635 m636 m637 m638 m639 m640 m641 m642 m643 m644 m645 m646 m647 m648 m649 m650 m651 m652 m653 m654 m655 m656 m657 m658 m659 m660 m661 m662 m663 m664 m665 m666 m667 m668 m669 m670 m671 m672 m673 m674 m675 m676 m677 m678 m679 m680 m681 m682 m683 m684 m685 m686 m687 m688 m689 m690 m691 m692 m693 m694 m695 m696 m697 m698 m699 m700 m701 m702 m703 m704 m705 m706 m707 m708 m709 m710 m711 m712 m713 m714 m715 m716 m717 m718 m719 m720 m721 m722 m723 m724 m725 m726 m727 m728 m729 m730 m731 m732 m733 m734 m735 m736 m737 m738 m739 m740 m741 m742 m743 m744 m745 m746 m747 m748 m749 m750 m751 m752 m753 m754 m755 m756 m757 m758 m759 m760 m761 m762 m763 m764 m765 m766 m767 m768 m769 m770 m771 m772 m773 m774 m775 m776 m777 m778 m779 m780 m781 m782 m783 m784 m785 m786 m787 m788 m789 m790 m791 m792 m793 m794 m795 m796 m797 m798 m799 m800 m801 m802 m803 m804 m805 m806 m807 m808 m809 m810 m811 m812 m813 m814 m815 m816 m817 m818 m819 m820 m821 m822 m823 m824 m825 m826 m827 m828 m829 m830 m831 m832 m833 m834 m835 m836 m837 m838 m839 m840 m841 m842 m843 m844 m845 m846 m847 m848 m849 m850 m851 m852 m853 m854 m855 m856 m857 m858 m859 m860 m861 m862 m863 m864 m865 m866 m867 m868 m869 m870 m871 m872 m873 m874 m875 m876 m877 m878 m879 m880 m881 m882 m883 m884 m885 m886 m887 m888 m889 m890 m891 m892 m893 m894 m895 m896 m897 m898 m899 m900 m901 m902 m903 m904 m905 m906 m907 m908 m909 m910 m911 m912 m913 m914 m915 m916 m917 m918 m919 m920 m921 m922 m923 m924 m925 m926 m927 m928 m929 m930 m931 m932 m933 m934 m935 m936 m937 m938 m939 m940 m941 m942 m943 m944 m945 m946 m947 m948 m949 m950 m951 m952 m953 m954 m955 m956 m957 m958 m959 m960 m961 m962 m963 m964 m965 m966 m967 m968 m969 m970 m971 m972 m973 m974 m975 m976 m977 m978 m979 m980 m981 m982 m983 m984 m985 m986 m987 m988 m989 m990 m991 m992 m993 m994 m995 m996 m997 m998 m999 m1000 m1001 m1002 m1003 m1004 m1005 m1006 m1007 m1008 m1009 m1010 m1011 m1012 m1013 m1014 m1015 m1016 m1017 m1018 m1019 m1020 m1021 m1022 m1023 m1024 m1025 m1026 m1027 m1028 m1029 m1030 m1031 m1032 m1033 m1034 m1035 m1036 m1037 m1038 m1039 m1040 m1041 m1042 m1043 m1044 m1045 m1046 m1047 m1048 m1049 m1050 m1051 m1052 m1053 m1054 m1055 m1056 m1057 m1058 m1059 m1060 m1061 m1062 m1063 m1064 m1065 m1066 m1067 m1068 m1069 m1070 m1071 m1072 m1073 m1074 m1075 m1076 m1077 m1078 m1079 m1080 m1081 m1082 m1083 m1084 m1085 m1086 m1087 m1088 m1089 m1090 m1091 m1092 m1093 m1094 m1095 m1096 m1097 m1098 m1099 m1100 m1101 m1102 m1103 m1104 m1105 m1106 m1107 m1108 m1109 m1110 m1111 m1112 m1113 m1114 m1115 m1116 m1117 m1118 m1119 m1120 m1121 m1122 m1123 m1124 m1125 m1126 m1127 m1128 m1129 m1130 m1131 m1132 m1133 m1134 m1135 m1136 m1137 m1138 m1139 m1140 m1141 m1142 m1143 m1144 m1145 m1146 m1147 m1148 m1149 m1150 m1151 m1152 m1153 m1154 m1155 m1156 m1157 m1158 m1159 m1160 m1161 m1162 m1163 m1164 m1165 m1166 m1167 m1168 m1169 m1170 m1171 m1172 m1173 m1174 m1175 m1176 m1177 m1178 m1179 m1180 m1181 m1182 m1183 m1184 m1185 m1186 m1187 m1188 m1189 m1190 m1191 m1192 m1193 m1194 m1195 m1196 m1197 m1198 m1199 m1200 m1201 m1202 m1203 m1204 m1205 m1206 m1207 m1208 m1209 m1210 m1211 m1212 m1213 m1214 m1215 m1216 m1217 m1218 m1219 m1220 m1221 m1222 m1223 m1224 m1225 m1226 m1227 m1228 m1229 m1230 m1231 m1232 m1233 m1234 m1235 m1236 m1237 m1238 m1239 m1240 m1241 m1242 m1243 m1244 m1245 m1246 m1247 m1248 m1249 m1250 m1251 m1252 m1253 m1254 m1255 m1256 m1257 m1258 m1259 m1260 m1261 m1262 m1263 m1264 m1265 m1266 m1267 m1268 m1269 m1270 m1271 m1272 m1273 m1274 m1275 m1276 m1277 m1278 m1279 m1280 m1281 m1282 m1283 m1284 m1285 m1286 m1287 m1288 m1289 m1290 m1291 m1292 m1293 m1294 m1295 m1296 m1297 m1298 m1299 m1300 m1301 m1302 m1303 m1304 m1305 m1306 m1307 m1308 m1309 m1310 m1311 m1312 m1313 m1314 m1315 m1316 m1317 m1318 m1319 m1320 m1321 m1322 m1323 m1324 m1325 m1326 m1327 m1328 m1329 m1330 m1331 m1332 m1333 m1334 m1335 m1336 m1337 m1338 m1339 m1340 m1341 m1342 m1343 m1344 m1345 m1346 m1347 m1348 m1349 m1350 m1351 m1352 m1353 m1354 m1355 m1356 m1357 m1358 m1359 m1360 m1361 m1362 m1363 m1364 m1365 m1366 m1367 m1368 m1369 m1370 m1371 m1372 m1373 m1374 m1375 m1376 m1377 m1378 m1379 m1380 m1381 m1382 m1383 m1384 m1385 m1386 m1387 m1388 m1389 m1390 m1391 m1392 m1393 m1394 m1395 m1396 m1397 m1398 m1399 m1400 m1401 m1402 m1403 m1404 m1405 m1406 m1407 m1408 m1409 m1410 m1411 m1412 m1413 m1414 m1415 m1416 m1417 m1418 m1419 m1420 m1421 m1422 m1423 m1424 m1425 m1426 m1427 m1428 m1429 m1430 m1431 m1432 m1433 m1434 m1435 m1436 m1437 m1438 m1439 m1440 m1441 m1442 m1443 m1444 m1445 m1446 m1447 m1448 m1449 m1450 m1451 m1452 m1453 m1454 m1455 m1456 m1457 m1458 m1459 m1460 m1461 m1462 m1463 m1464 m1465 m1466 m1467 m1468 m1469 m1470 m1471 m1472 m1473 m1474 m1475 m1476 m1477 m1478 m1479 m1480 m1481 m1482 m1483 m1484 m1485 m1486 m1487 m1488 m1489 m1490 m1491 m1492 m1493 m1494 m1495 m1496 m1497 m1498 m1499 m1500 m1501 m1502 m1503 m1504 m1505 m1506 m1507 m1508 m1509 m1510 m1511 m1512 m1513 m1514 m1515 m1516 m1517 m1518 m1519 m1520 m1521 m1522 m1523 m1524 m1525 m1526 m1527 m1528 m1529 m1530 m1531 m1532 m1533 m1534 m1535 m1536 m1537 m1538 m1539 m1540 m1541 m1542 m1543 m1544 m1545 m1546 m1547 m1548 m1549 m1550 m1551 m1552 m1553 m1554 m1555 m1556 m1557 m1558 m1559 m1560 m1561 m1562 m1563 m1564 m1565 m1566 m1567 m1568 m1569 m1570 m1571 m1572 m1573 m1574 m1575 m1576 m1577 m1578 m1579 m1580 m1581 m1582 m1583 m1584 m1585 m1586 m1587 m1588 m1589 m1590 m1591 m1592 m1593 m1594 m1595 m1596 m1597 m1598 m1599 m1600 m1601 m1602 m1603 m1604 m1605 m1606 m1607 m1608 m1609 m1610 m1611 m1612 m1613 m1614 m1615 m1616 m1617 m1618 m1619 m1620 m1621 m1622 m1623 m1624 m1625 m1626 m1627 m1628 m1629 m1630 m1631 m1632 m1633 m1634 m1635 m1636 m1637 m1638 m1639 m1640 m1641 m1642 m1643 m1644 m1645 m1646 m1647 m1648 m1			

Appendices

~	X	X	X	X	space	n	CR
	Projector ID		Command ID			variable	carriage return
	RS232 Version No.			m=1 a=777	-XX152 n	Ok	
		Depends					
	Input Source Commands	None/VGA/Video/HDMI1/ HDMI2/Component		m=1	-XX121 n	Ok	a=0/2/5/7/8/11
	Software Version			m=1	-XX122 n	Ok888	
	Display Mode	None/Cinema/Bright/Photo/ Reference/User/ISF Day/ ISF Night/3D/Free On/Off		m=1	-XX123 n	Ok	a=0/1/2/3/4/5/7/8/9/11
	Power State			m=1	-XX124 n	Ok	a=1/0
	Brightness			m=1	-XX125 n	Ok	
	Contrast			m=1	-XX126 n	Ok	
	Aspect Ratio	4:3/16:9/LBX/Native/Auto235/ Auto235_Subtitle		m=1	-XX127 n	Ok	aa=1/2/5/6/8/9/11 for 4:3/16:9/LBX/ Native/Auto235/ Auto235_Subtitle
	Color Temperature	D50/D65/D70/D75/D83/D99/ Native		m=1	-XX128 n	Ok	a=1/2/3/4/5/6/7
	Projection Mode	Front-Desktop Rear-Desktop Front-Ceiling Rear-Ceiling		m=1	-XX129 n	Ok	a=0/1/2/3 for Front- Desktop/Rear-Desktop /Front-Ceiling/Rear- Ceiling
Remote Control							
	Up			m=10	-XX140 n		
	Left			m=11			
	Enter			m=12			
	Right			m=13			
	Down			m=14			
	Menu			m=20			
	Re-sync			m=41			

Ceiling Mount Installation

1. To prevent damage to your projector, please use the Optoma ceiling mount.
2. If you wish to use a third party ceiling mount kit, please ensure the screws used to attach a mount to the projector meet the following specifications:
 - ▶ Screw type: M6
 - ▶ Maximum screw length: 12mm
 - ▶ Minimum screw length: 10mm

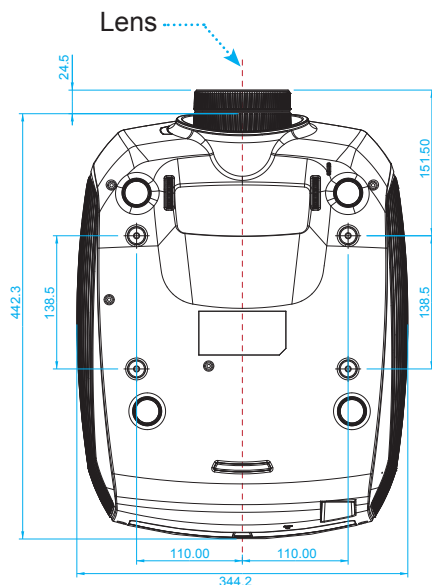


❖ Please note that damage resulting from incorrect installation will void the warranty.

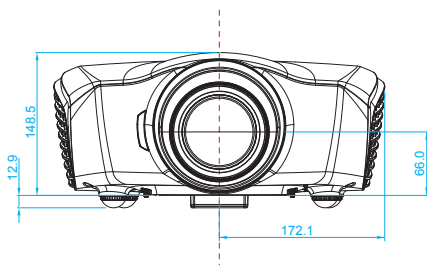


Warning:

1. If you buy a ceiling mount from another company, please be sure to use the correct screw size. Screw size will vary depending on the thickness of the mounting plate.
2. Be sure to keep at least 10 cm gap between the ceiling and the bottom of the projector.
3. Avoid installing the projector near a heat source.



Unit: mm






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Regulation & Safety Notices

This appendix lists the general notices of your projector.

FCC Notice

This device has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ❖ Reorient or relocate the receiving antenna.
- ❖ Increase the separation between the device and receiver.
- ❖ Connect the device into an outlet on a circuit different from that to which the receiver is connected.
- ❖ Consult the dealer or an experienced radio/television technician for help.

Notice: Shielded cables

All connections to other computing devices must be made using shielded cables to maintain compliance with FCC regulations.

Caution

Changes or modifications not expressly approved by the manufacturer could void the user's authority, which is granted by the Federal Communications Commission, to operate this projector.

Operation Conditions

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference and
2. This device must accept any interference received, including interference that may cause undesired operation.

Notice: Canadian users

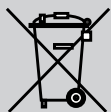
This Class B digital apparatus complies with Canadian ICES-003.

Remarque à l'intention des utilisateurs canadiens

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Declaration of Conformity for EU countries

- EMC Directive 2004/108/EC (including amendments)
- Low Voltage Directive 2006/95/EC
- R & TTE Directive 1999/5/EC (if product has RF function)



Disposal instructions

Do not throw this electronic device into the trash when discarding. To minimize pollution and ensure utmost protection of the global environment, please recycle it.

Trademarks

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